AMENDMENTS TO THE DRAWINGS

Three sheets of Replacement Drawings are attached, showing FIGS. 1a, 1b, and 1c, FIGS. 2 and 3, and FIGS. 8a, 8b, 8c, and 8d.

REMARKS

The Applicant thanks the Examiner for the thorough consideration given the present application. Claims 1-6 are pending. Claims 1-4 are not amended, and claims 5 and 6 are added. Claim 1 is independent. The Examiner is respectfully requested to reconsider the rejections in view of the amendments and remarks set forth herein.

Allowable Subject Matter

The Examiner states that claims 1-4 would be allowable if rewritten to overcome the rejection under 35 U.S.C. §112, second paragraph.

The Applicant appreciates the Examiner's early indication of allowable subject matter. As indicated below, the Applicant has traversed the rejection under 35 U.S.C. 112, second paragraph, and respectfully submits that independent claim 1 is in condition for allowance.

Claim for Priority

The Examiner has acknowledged the Applicant's claim for foreign priority.

Amendments to the Drawings

Three sheets of Replacement Drawings are attached, showing FIGS. 1a, 1b, and 1c, FIGS. 2 and 3, and FIGS. 8a, 8b, 8c, and 8d. The drawings now show disk spring 12 having surfaces A, B, and C, and minimum gap G between surface B of the disk spring 12 and the load carrying shoulder 1-4 of the body 1.

Substitute Specification

In accordance with MPEP §608.01(q), the Applicant herewith submits a substitute specification in the above-identified application. Also included is a marked-up copy of the original specification, which shows the portions of the original specification, which are being added and deleted. The Applicant respectfully submits that the substitute specification includes no new matter and that the substitute specification includes the same changes as are indicated in the marked-up copy of the original specification showing additions and deletions.

Because the number of amendments that are being made to the original specification would render it difficult to consider the case, or to arrange the papers for printing or copying, the Applicant has voluntarily submitted this substitute specification. Accordingly, the Applicant respectfully requests that the substitute specification be entered into the application.

Abstract

The Abstract is revised so that it contains 150 words or less, as is required in U.S. practice.

Rejection Under 35 U.S.C. § 112, first paragraph

Claim 4 stands rejected under 35 U.S.C. § 112, first paragraph. This rejection is respectfully traversed.

In order to overcome this rejection, the Applicant has amended the specification in order to clarify the claimed subject matter.

In particular, the specification has been amended to provide antecedent basis for the disk spring 12 having surfaces A, B, and C, and minimum gap G between surface B of the

disk spring 12 and the load carrying shoulder 1-4 of the body 1, as set forth in claim 4 and shown in Figs. 1b, 1c, and 8c.

It can be seen that the disk spring 12 has a surface A, surface B and surface C (see the enclosed reference Figs. 8a-8d). When the disk spring 12 is mounted to the body 1 as shown in Fig. 1c, the surface A of the disk spring 12 lies against the step 1-1 of the body 1. Surface C contacts the rolling member 7, and surface B faces towards the load-carrying shoulder 1-4 of the body 1, and forms a gap between it and the load-carrying shoulder 1-4 of the body 1. Fig. 1b shows a clamping state of the drill chuck in which state the rolling member 7 applies a load to the disk spring 12 to deform the same towards the load-carrying shoulder 1-4 of the body 1, such that the surface B of the disk spring contacts the load-carrying shoulder 1-4. At this time, the disk spring is deformed in maximum and contact with the shoulder of the chuck body. The elasticity of the disk spring tends to absorb the vibration and impact of the drill chuck during the operation so as to prevent the toolholder from disengagement or looseness due to the over fluctuation of the gripping force. Therefore, it is obvious that when no load or not enough load is applied to the disk spring 12 to make it deformed in maximum, there is a gap G between surface B of the disk spring 12 and the load-carrying should 1-4 of the body 1. The term "minimum gap G" refers specifically to a predetermined gap between (the surface b of) the disk spring 12 and the load-carrying shoulder 1-4 of the body 1 in case that no load is applied to the disk spring 12. When the load is applied, the gap G will be decreased from the "minimum gap". In other words, when gripping force of 50 to 95 percent of a designed maximum gripping force of the drill chuck is applied, the axial deformation of

the disk spring 12 will make the gap G between (the surface B of) the disk spring 12 and the load-carrying shoulder 1-4 of the body 1 disappear to zero, so as to provide a pre-tightening force to grip the toolholder. When the load is released, the gap G will appear again due to the elastic restoration of the disk spring 12.

The Applicant respectfully submits that claim 4 is fully supported by and adequately described in the written description of the invention. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Rejection Under 35 U.S.C. § 112, second paragraph

Claims 1-4 stand rejected under 35 U.S.C. § 112, second paragraph. This rejection is respectfully traversed.

The Applicant respectfully submits that claim 1 as originally filed, particularly points out and distinctly claim the subject matter which the Applicant regards as the invention. The Examiner will note that page 5 of the specification recites *"the front sleeve 9 and the body 1 are fixedly connected together via a plurality of positioning keys 9-1 and connecting clips 9-2 on front sleeve 9 and the corresponding positioning slot 1-2 and ring type connecting groove 1-3 in a front end portion of the body 1"*.

In addition, this section of the specification has been amended to add further clarity to the subject matter set forth in independent claim 1. (See paragraph [0030] of the Substitute Specification.)

The Applicant respectfully submits that claim 1 is fully supported by and adequately described in the written description of the invention.

Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Therefore, independent claim 1, and claims 2-6 depending therefrom are in condition for allowance.

Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

CONCLUSION

Since the remaining patents cited by the Examiner have not been utilized to reject claims, but merely to show the state of the art, no comment need be made with respect thereto.

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. It is believed that a full and complete response has been made to the outstanding Office Action, and that the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, he is invited to telephone Carl T. Thomsen (Reg. No. 50,786) at (703) 205-8000.

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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly extension of time fees.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Dated:

Respectfully submitted,

By _____
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Attachments: Revised Abstract of the Disclosure
Substitute Specification
Three Sheets of Replacement Drawings

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